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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,724	08/10/2001	Keith Louis Haughton	13744	4814
293	7590	09/16/2004	EXAMINER	
DOWELL & DOWELL PC 2111 Eisenhower Ave. Suite 406 Alexandria, VA 22314			CHOI, STEPHEN	
			ART UNIT	PAPER NUMBER
			3724	

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/925,724	Applicant(s) HAUGHTON ET AL. 	
	Examiner Stephen Choi	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13,17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1,3-13, and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the specification for the claimed top cutting angle varying along the width of the tooth increasing as it approaches the center. The top cutting angle is defined by the tooth leading plane and the dimple leading edge plane of the dimple proximate to a leading edge. The dimple leading edge planes along the leading edge of the dimple do not run parallel to each other rather they are angled to each other in a direction transverse to a direction of rotation along the leading edge and run in a direction parallel to a direction of inclination of the leading edge towards a center of the dimple. Thus, the top cutting angle is constant along the leading edge.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1, 3-13, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear what structure is set forth by "the top cutting angle varies along the width of the tooth increasing as it approaches the center". "the center" lacks positive antecedent basis. It is assumed that "the center" is referring to a center of the dimple.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-13, and 17, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Standal (US 2,972,364).

Standal discloses all the elements of the invention including:

- a) a generally circular blade portion (col. 1, line 24);
- b) a plurality of spaced apart teeth having a leading plane and a dimple wherein the dimple having a dimple leading edge, a dimple leading edge plane, a top upwardly curved portion and a surface that is shaped inwardly from the top curved portion forming a curved plane and a top cutting angle wherein a positive rake defined by the top cutting angle formed by the dimple (see attached Figure A of the previous office action);

c) a curved cutting edge (20).

Regarding claim 3, see Figure 1 wherein the leading plane is inclined forwardly. Regarding claims 4-5 and 10-11, see the attached Figure A wherein the positive rake is about 33 degrees. Regarding claims 6-7 and 12, see the attached Figure A wherein a relief angle is about 12 degrees. Regarding claims 8-9 and 13, a lateral clearance angle being between about 1.5 and about 5 degrees (col. 2, lines 69-70).

Response to Arguments

7. Applicant's arguments filed 24 May 2004 have been fully considered but they are not persuasive.

Applicants contend that Standal fails to show the top cutting angle varies over the width as claimed.

The examiner agrees that a line defining the shape of the center of the dimple has a steeper upper slope than a line that defines an outer edge of the dimple when lines are parallel to each other. However, as set forth above, the top cutting angle is defined by the tooth leading plane and the dimple leading edge plane. Lines defining the dimple leading edge are not parallel to each other rather they all run in a direction towards the center of the dimple. Thus, angles defined by planes containing each of these lines and the tooth leading plane are the same. It is respectfully suggested to further describe the dimple leading edge plane and the tooth leading plane in such a way to better define the top cutting angle.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Choi whose telephone number is 703-306-4523. The examiner can normally be reached on Monday-Friday 9:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on 703-308-2187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SC
13 September 2004



STEPHEN CHOI
PRIMARY EXAMINER